

**Allowed claims is RUNGE et al., S.N. 09/673,136, PF0000048996, M/39106US**

19. A dry microorganism culture which comprises at least one microorganism species in carrier-bound form, wherein the culture is present in the form of particles which
  - a) have a particle size of at least about 0.1 mm and
  - b) comprise from about  $10^{10}$  to  $10^{12}$  cfu/g of at least one microorganism species;
  - c) have a water activity  $a_w$  of less than 0.15; and
  - d) are compressed.
20. A microorganism culture as claimed in claim 19, wherein the particles have been compressed under the action of a linear force from about 5 to 15 kN/cm or a pressure from about 90 to 160 MPa.
21. A microorganism culture as claimed in claim 19, wherein the compressed particles comprise compacted broken material having a diameter of from about 0.1 mm to about 2 mm.
22. A microorganism culture as claimed in claim 19, wherein the compressed particles comprise tablets having a diameter of from about 2 to 50 mm and a ratio of diameter to thickness of from about 1:0.1 to about 10:1.
23. A microorganism culture as claimed in claim 19, wherein it comprises, a further component, an effervescent additive.
24. A microorganism culture as claimed in claim 19, wherein, as carrier, it comprises at least one matrix material for embedding the microorganism cells with or without at least one further cell-stabilizing additive.

25. A microorganism culture as claimed in claim 19, wherein it comprises at least one lactic-acid-producing bacterial species.
26. A microorganism culture as claimed in claim 25, wherein the bacterial species is selected from bacteria of the genus *Lactobacillus* sp.
27. A process for producing a dry microorganism culture, comprising at least one microorganism species in carrier-bound form and having a water activity  $a_w$  of less than 0.15, which process comprises,
- a) dissolving or suspending at least one substance suitable for forming a carrier in a liquid comprising at least one microorganism species,
  - b) drying the resultant mixture in a spray-dryer, for the spray-drying use being made of a conditioned dried gas having a dew point of less than about +5°C, heated to a temperature in the range of above about 80°C, and
  - c) removing the dried material from the spray dryer, this dried material having an exit temperature of from about 45 to 75°C.
28. A process as claimed in claim 27, wherein, in a further stage d), the dry material is subjected to a further drying at a temperature in the range from about 15 to 50° C in a gas atmosphere or in vacuo and/or at least one desiccant is added.
29. A process as claimed in claim 27, wherein, as dry material, a powder concentrate having a content of viable microorganisms of from about  $5 \cdot 10^8$  to  $1 \cdot 10^{12}$  cfu/g is obtained.
30. Dry compressed microorganism culture according to claim 19, obtained from a powder concentrate of microorganism culture dried in a spray-dryer, for the

spray-drying use being made of a conditioned dried gas having a dew point of less than about +5°C , heated to a temperature in the range of above about 80°C.

31. A process for preparing a dry microorganism culture as claimed in claim 19, which comprises
  - i) producing a powder concentrate of the microorganism culture by carrier-bound spray-drying, carrier-bound freeze-drying or carrier bound fluidized-bed drying,
  - ii) with or without admixing the powder concentrate with one or more coformulants and
  - iii) compacting or tableting this mixture.
32. A process as claimed in claim 31, wherein the compacted powder concentrate from stage iii) is broken, with or without classification.
33. A process for preparing a dry agglomerated microorganism culture, which comprises
  - i) preparing a powder concentrate of the microorganism culture by carrier-bound spray-drying, carrier bound freeze drying or carrier-bound fluidized-bed drying which powder concentrate has a water activity  $a_w$  of less than 0.15,
  - ii) with or without admixing the powder concentrate with one or more coformulants and
  - iii) agglomerating this mixture.
34. A process as claimed in claim 31, wherein the spray-drying is performed in a

spray-dryer in which a conditioned dried gas is employed having a dew point of less than about +5°C , heated to a temperature in the range of above about 80°C.

35. A starter culture for foodstuffs and feedstuffs comprising a microorganism culture as claimed in claim 19, or prepared by a process for producing a dry microorganism culture, comprising at least one microorganism species in carrier-bound form, which comprises

- a) dissolving or suspending at least one substance suitable for forming a carrier in a liquid comprising at least one microorganism species,
- b) drying the resultant mixture in a spray-dryer, for the spray-drying use being made of a conditioned dried gas having a dew point of less than about +5°C, heated to a temperature in the range of above about 80°C, and
- c) removing the dried material from the spray dryer, this dried material having an exit temperature of from about 45 to 75°C.

36. A foodstuff or feedstuff obtainable by using a microorganism culture as claimed in claim 19 or prepared by a process for producing a dry microorganism culture, comprising at least one microorganism species in carrier-bound form, which comprises

- a) dissolving or suspending at least one substance suitable for forming a carrier in a liquid comprising at least one microorganism species,
- b) drying the resultant mixture in a spray-dryer, for the spray-dryer use being made of a conditioned dried gas having a dew point of less than about

- +5°C, heated to a temperature in the range of above about 80°C, and
- c) removing the dried material from the spray-dryer, this dried material having an exit temperature of from about 45 to 75°C.
37. A process as claimed in claim 33, wherein the spray-drying is performed in a spray-dryer employing a conditioned dried gas having a dew point of less than about +5°C, heated to a temperature in the range of above about 80°C.
38. A powder concentrate of a microorganism culture comprising from about  $4 \times 10^{11}$  to  $10^{12}$  cfu/g of at least one microorganism species, and having a water activity  $a_w$  of less than 0.15.
39. The powder concentrate of claim 38 having a water activity  $a_w$  of less than 0.4.